The Times They Are A-Changin'

Year Two as a Program Manager: Reflections & Questions

Keith Gaddis

New ESD Director

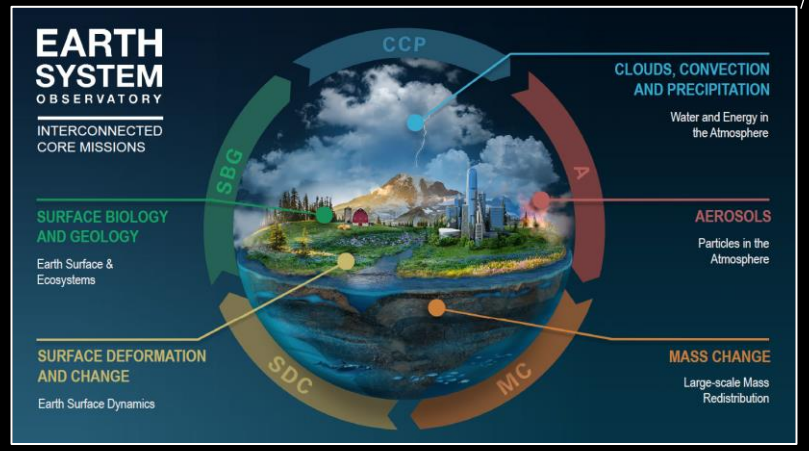
New Administrator

New Deputy ESD Director

SMD Director Departure

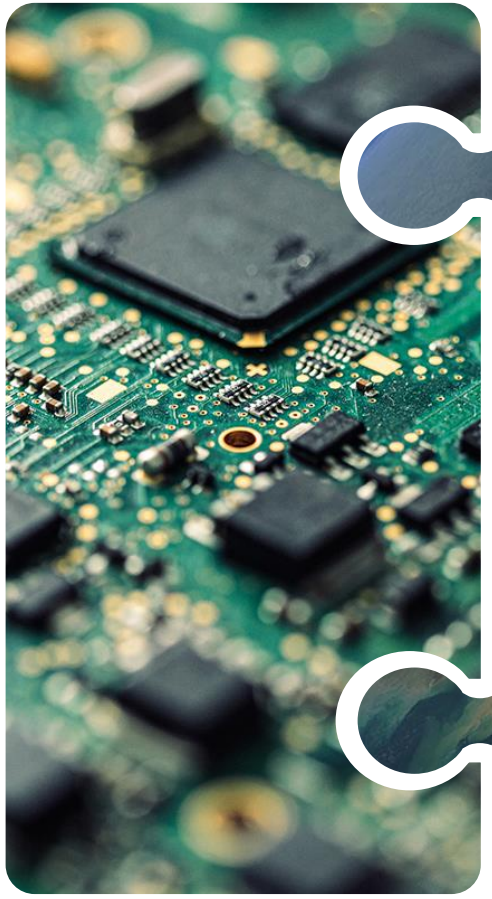
New SMD Director

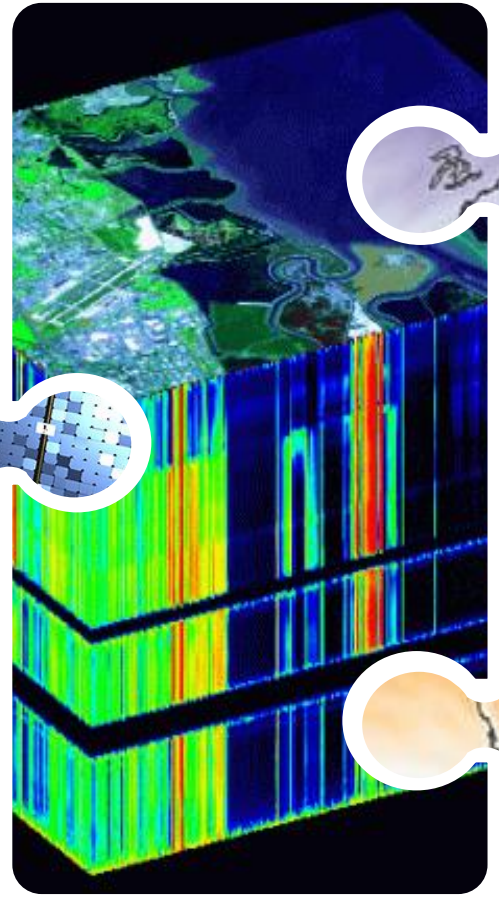
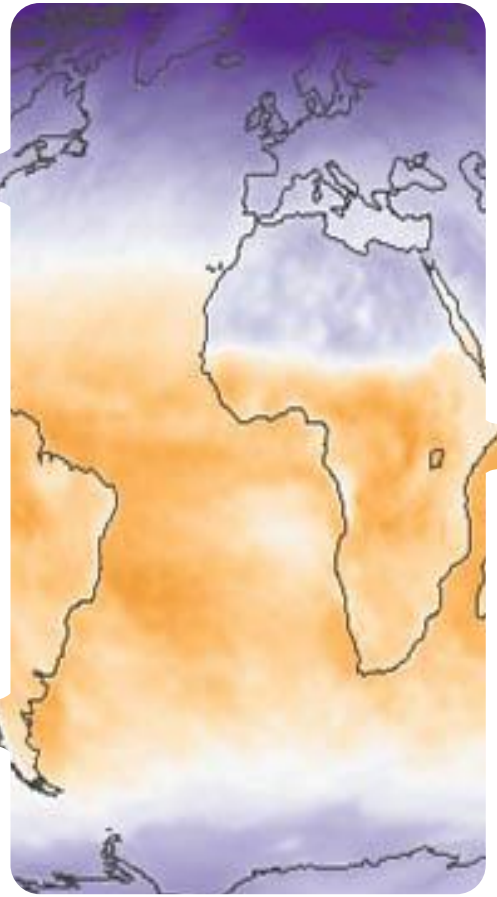
2020 2021 2022 2023



Earth Science Division

Technology Flight Data Research Applications




Integration into Partner's System

Development, Testing & Validation

Discovery & Feasibility

PHASE III

PHASE II

PHASE I

ARL 9 - Approved, Operational Deployment and Use in Decision Making

Actual operational, successful use of application by users in decision making activities.

ARL 8 - Application Completed and Qualified

Actual system completedand 'qualified' through test and demonstration for partners' decision-making activity. Application has been proven to work in its final form and under expected conditions.

ARL 7 - Application Completed and Qualified

Prototype near or at planned operational system. A major advance from ARL 6, requiring prototype system demonstration of an actual system prototype in an operational environment, such as partners' decision-making activity.

ARL 6 - Demonstration in Relevant Environment

Major increase in the application's demonstrated readiness. Prototype system demonstration in a relevant environment or simulated operational decision making environment.

ARL 5 - Validation in Relevant Environment

Basic components are integrated with reasonably realistic supporting elements so application can be tested in a simulated decision making environment.

ARL 4 - Initial Integration and Verification

(in experimental environment) Basic components of Earth science products and decision making activity (decision support system, tool, etc.) are integrated together to establish that they will work together.

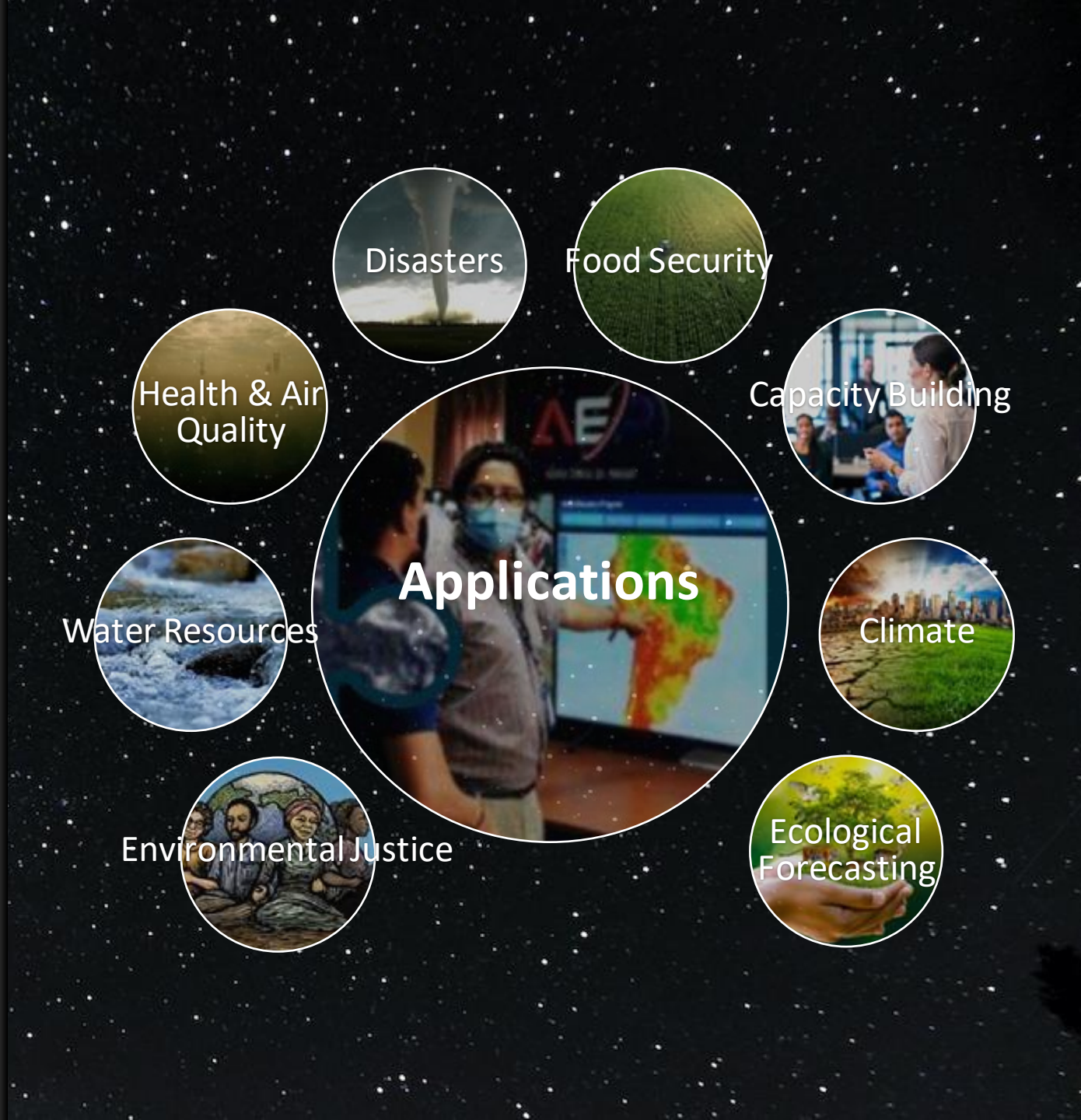
ARL 3 - Proof of Application Concept

Feasibility studies to assess the potential viability of the application. More complete characterization of the decision making process, including baseline.

ARL 2 - Application Concept

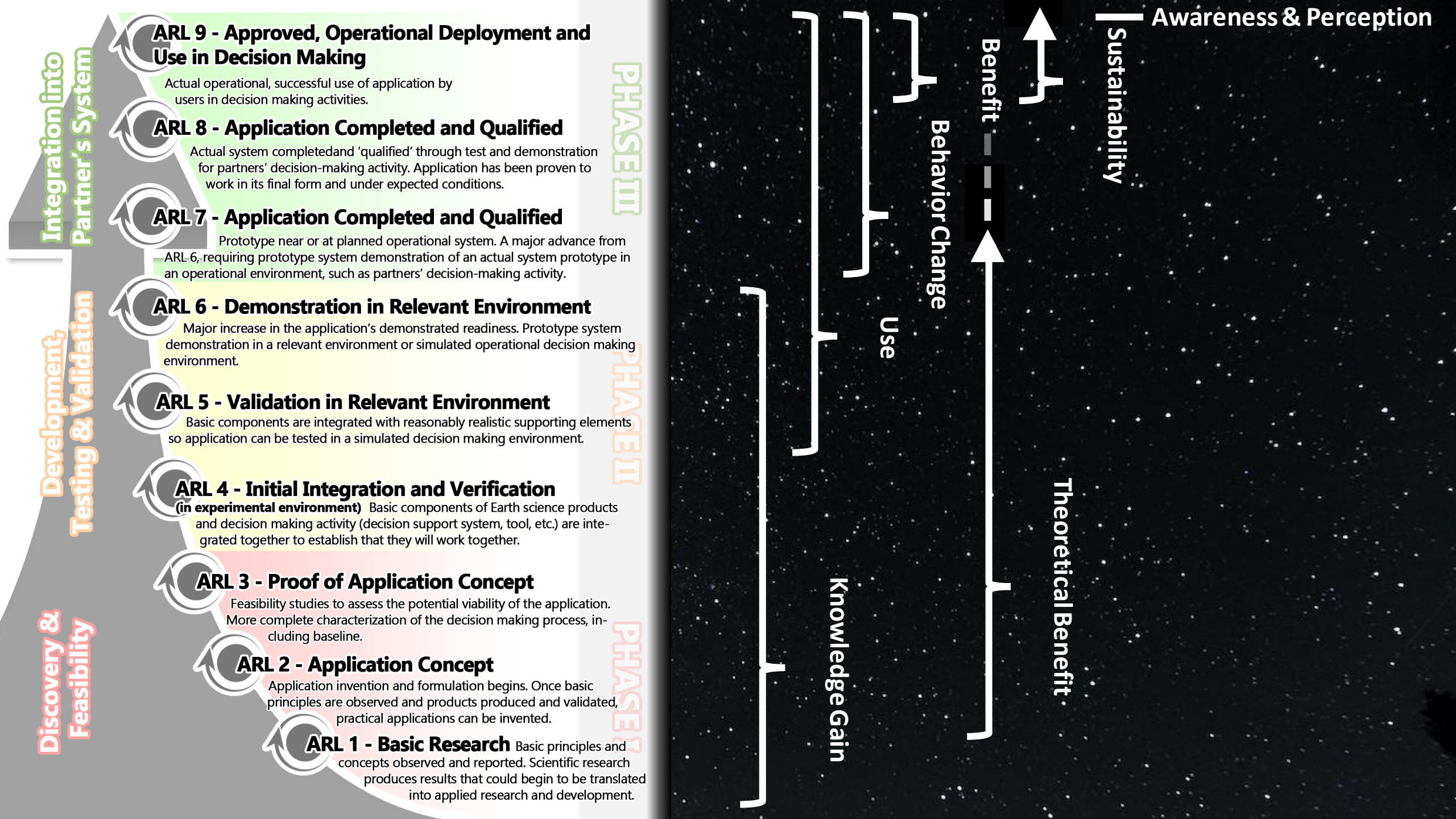
Application invention and formulation begins. Once basic principles are observed and products produced and validated, practical applications can be invented.

ARL 1 - Basic Research Basic principles and concepts observed and reported. Scientific research produces results that could begin to be translated into applied research and development.



What is Impact?

1. **Knowledge Gain** - Improvement in understanding or ability
2. **Use** - Amount of product use by end user/public
3. **Change in Behavior** - Decisions made by end user with product
4. **Awareness & Perception** – Product awareness & perceived value
5. **Benefit** - Benefit to end user resulting from ASP product use
6. **Sustainability** – Long term continued use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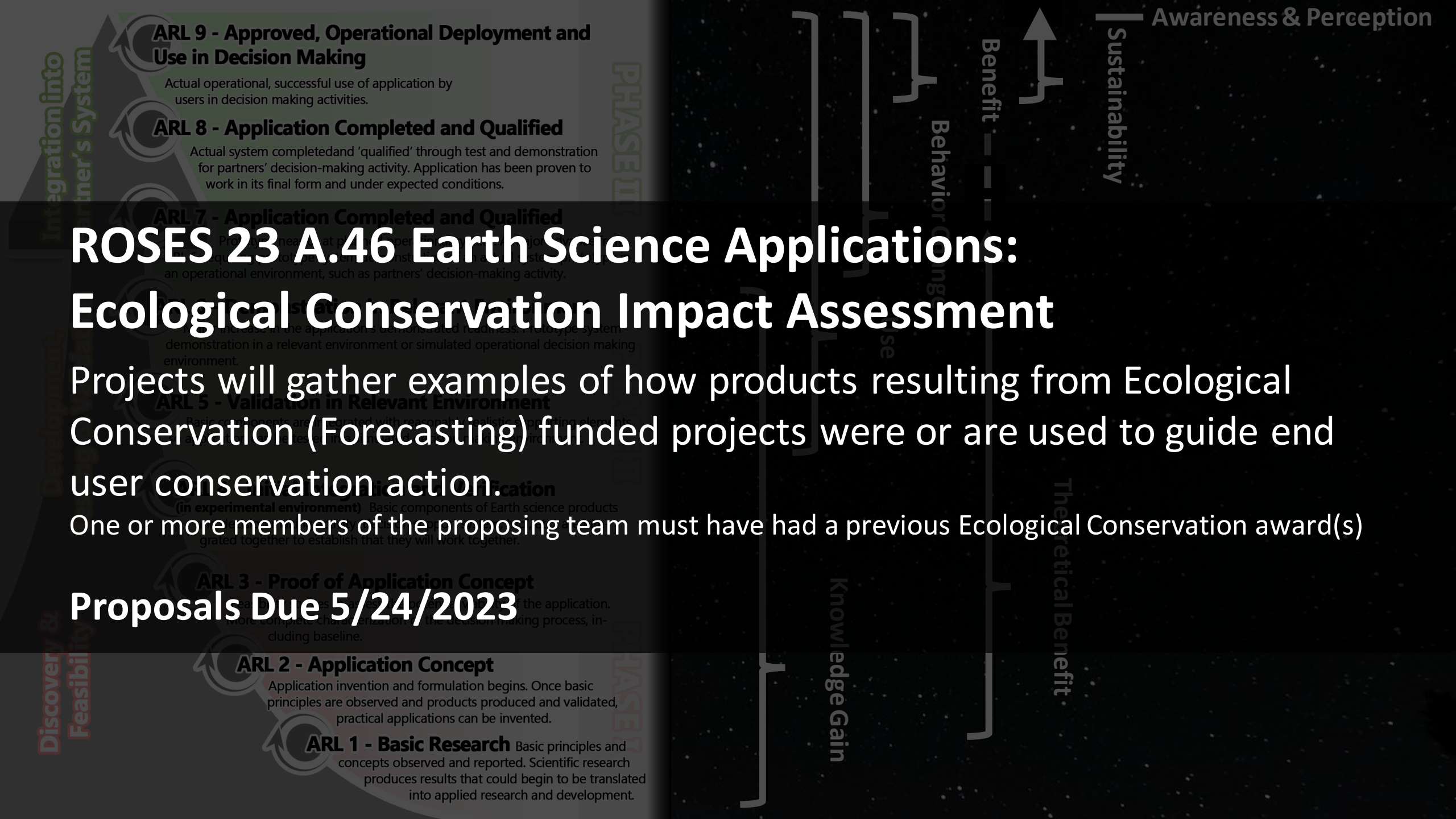
Awareness & Perception
Sustainability
Benefit
Behavior Change
Use
Knowledge Gain
Theoretical Benefit



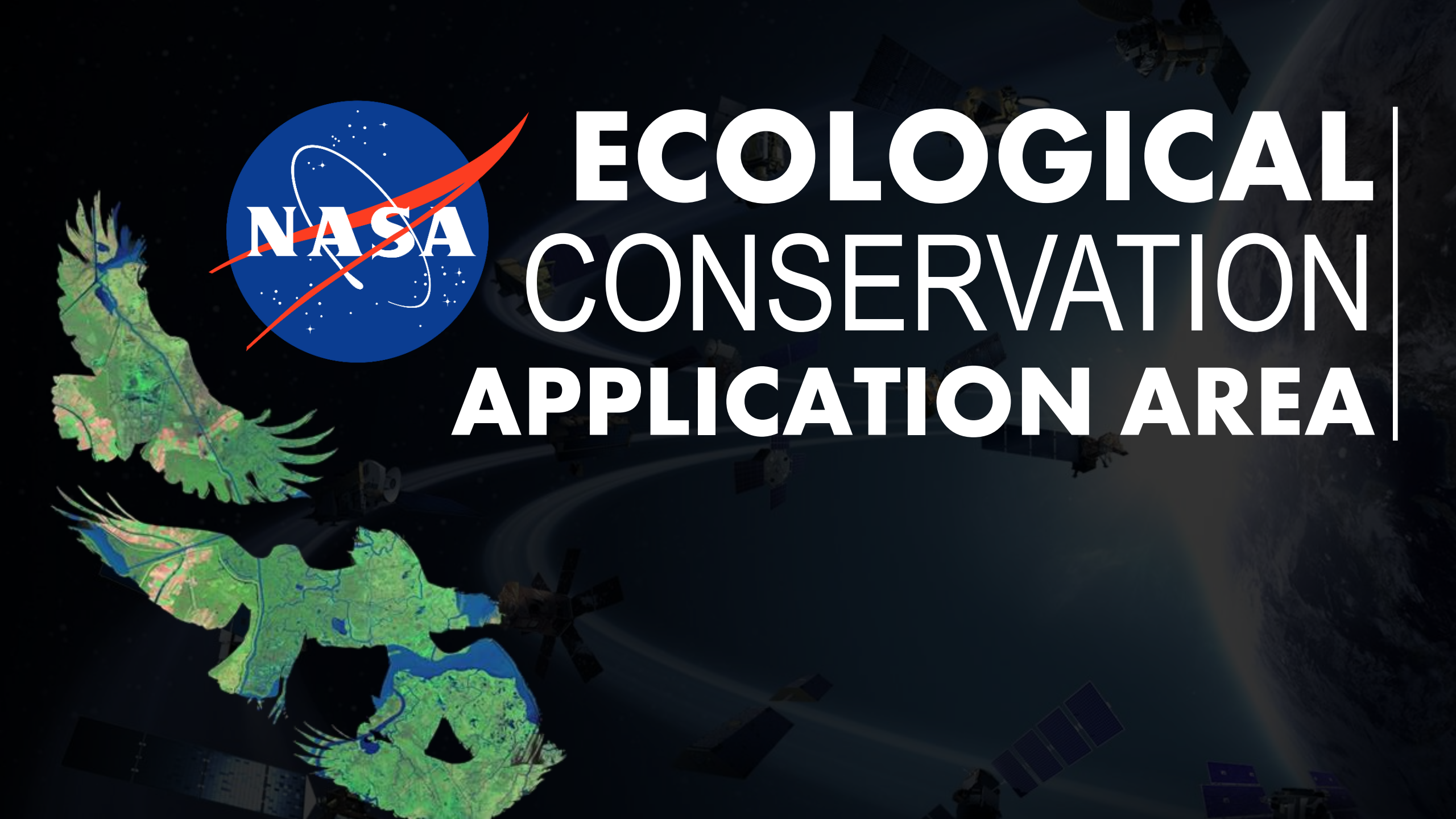
ROSES 23 A.46 Earth Science Applications: Ecological Conservation Impact Assessment

Projects will gather examples of how products resulting from Ecological Conservation (Forecasting) funded projects were or are used to guide end user conservation action.

One or more members of the proposing team must have had a previous Ecological Conservation award(s)

Proposals Due 5/24/2023

How else can we document impact?


NASA
ECOLOGICAL
CONSERVATION
APPLICATION AREA

plant, Chrysanthemum balsamita, that has silvery, fragrant leaves and is used in salads and as a flavoring.

costotomy [ko-stot-uh-mee] noun, cos·tot·o·mies.Surgery. incision of a rib.

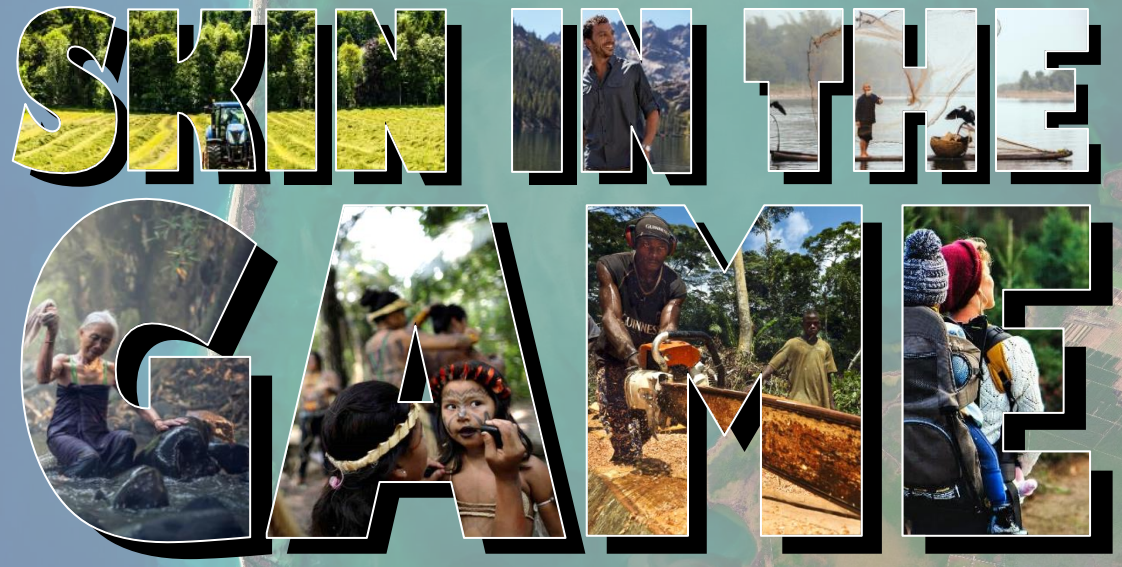
costrel [kos-truhl, kaw-struhl noun]. a flask made of leather, earthenware, or wood, usually with an ear or ears by which to suspend it, as from the waist.

cost-share

[kawst-shair, kost-] verb (used with object), cost-shared, cost-shar·ing. Cost Share occurs when a quantified portion of the costs of an award are not paid by the sponsor, but paid instead using resources within the end user organization.

costume [noun kos-toom, -tyoom; verb ko-stoom, -styoom] noun. 1. a style of dress, including accessories and hairdos, especially that peculiar to a nation, region, group, or historical period. 2. dress or garb characteristic of another period, place, person, etc., as worn on the stage or at balls. 3. fashion of dress appropriate to a particular occasion or season.

cotillion [kuh-til-yuhn, koh-] noun. 1. a formal ball given especially for debutantes. 2. a lively French social dance originating in the 18th century, consisting of a variety of



Why Cost Share?

- Demonstration of Demand
- Sustainability
- Empowered End User
- Resource Saving
- Increased Cost-Benefit

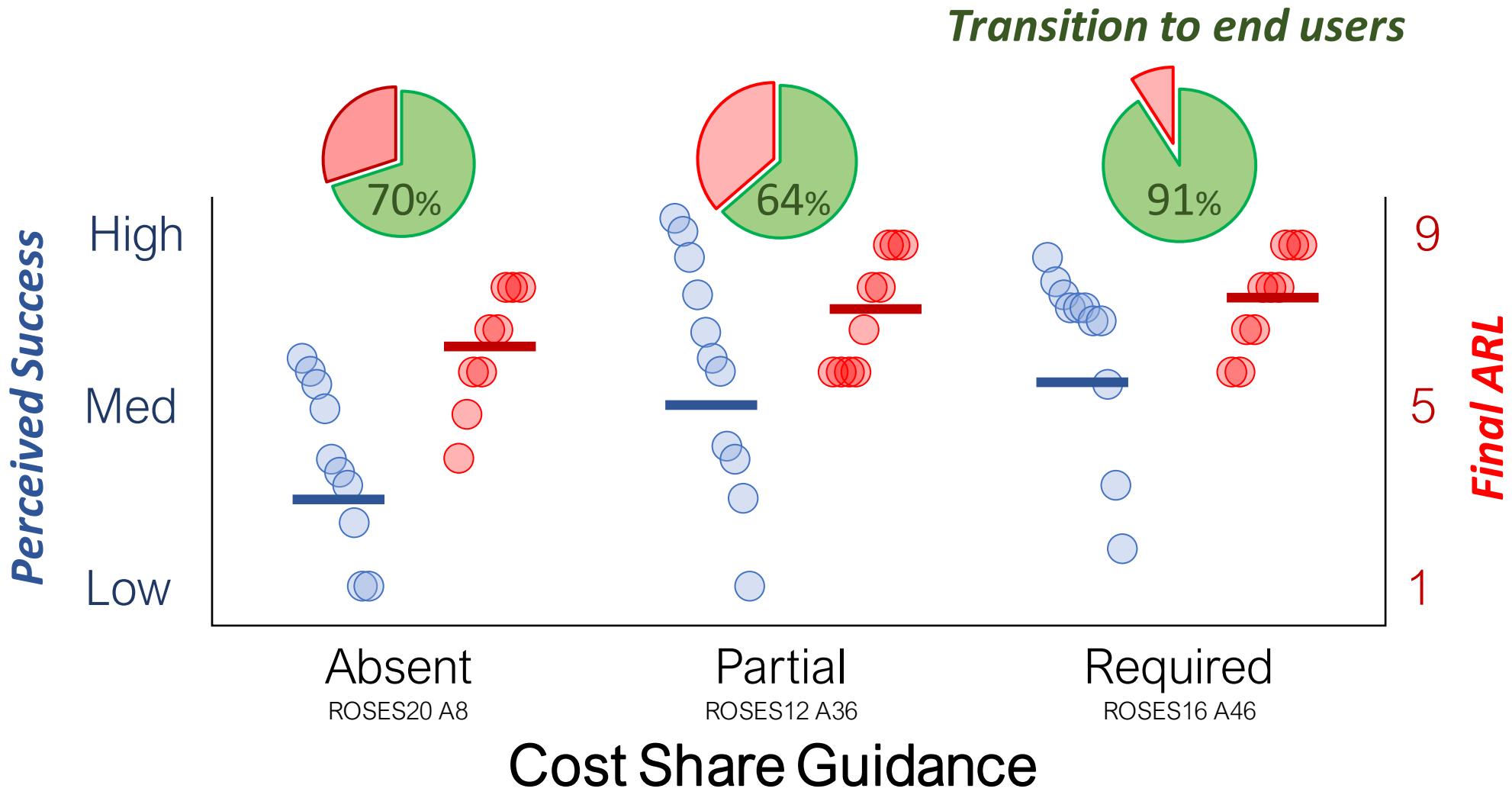
History of Implementation

End User Cost Share Requirement by Solicitation

Solicitation	Year 1	Year 2	Year 3	Year 4
ROSES12 A36	0%	~15-20%	~30-40%	~60-70%
ROSES16 A46	0%	20%	40%	60%
ROSES20 A39	0%	20%	40%	60%
ROSES22 A40	30%	30%	30%	30%

Does Cost Share Work?

Examining three Ecological Conservation solicitations with different cost share guidance.

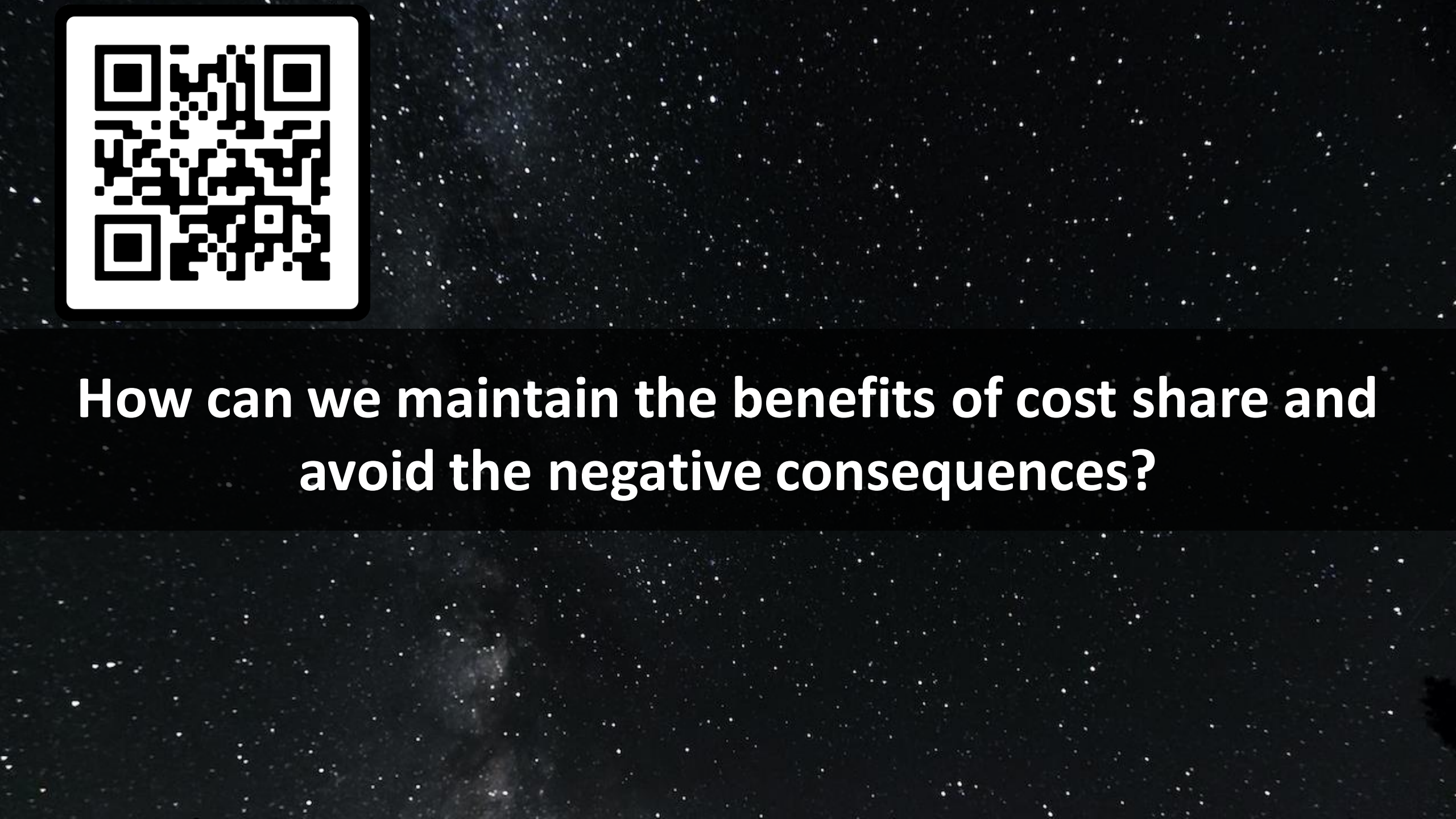


Con

- Restricts End User Applicants
- Programmatic Burden

Pro

- Better End User Transition
- Increased Project Success


How can we maintain the benefits of cost share and avoid the negative consequences?

Beyond Cost Share

End User Annual Report

3. Please describe how the project data and/or tools will be and/or have been used for conservation action or planning in your organization.

5. How often do you communicate with the project team?

End User Description Form

- End User Participation
- End User Decision-Making Need
- Sustainable Transfer
- Cost Share

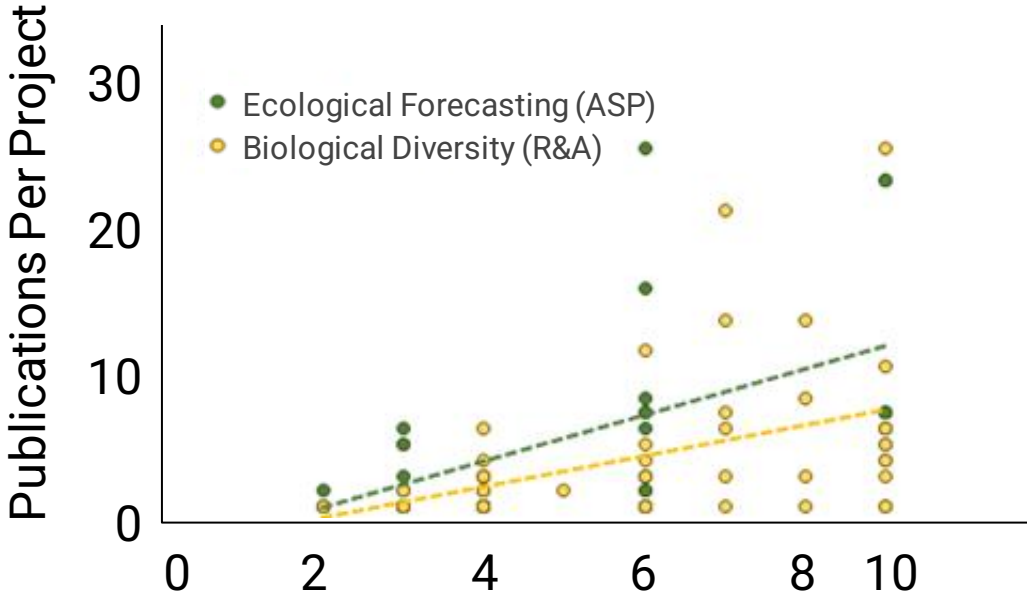
Redefining End User

End user must have both:

1. A specific decision-making need
2. Authority (e.g., legal, jurisdictional) to act on that need.

While intermediary organizations are welcome participants, they do not qualify as end users.

Are academics the right people to lead application focused activities?



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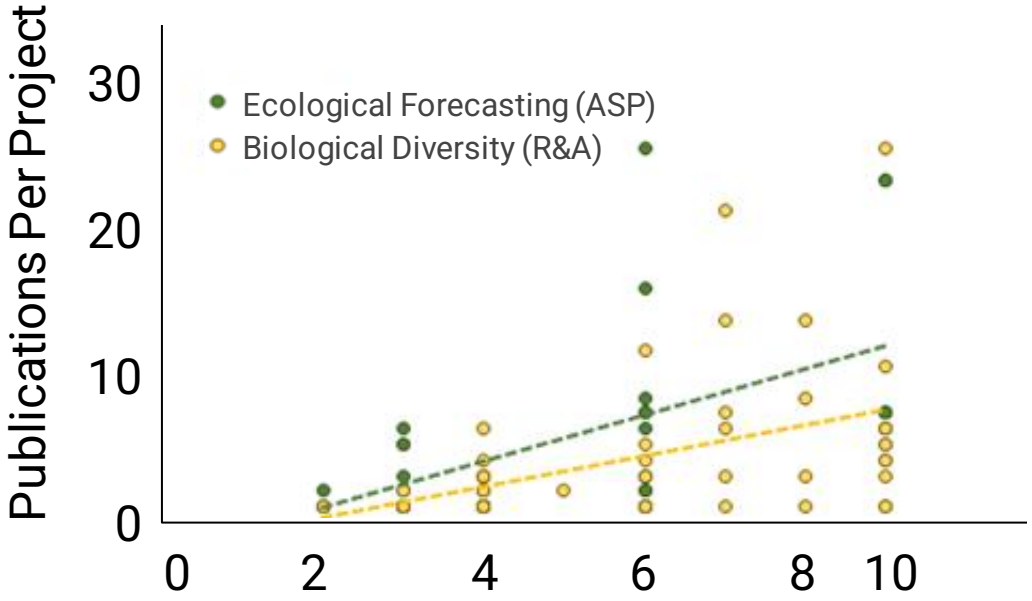

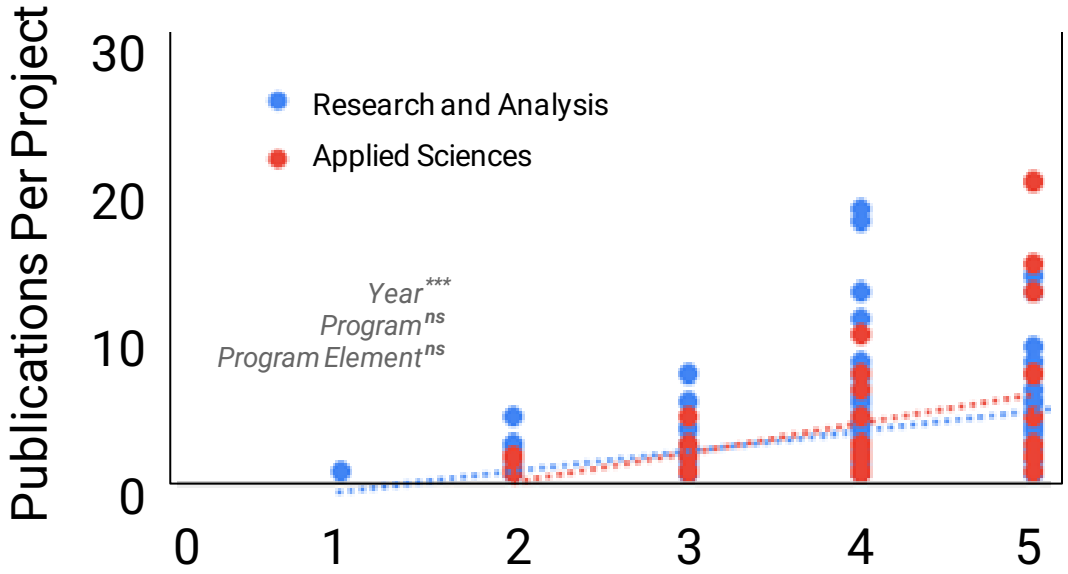

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ESD Private Sector Engagement Strategy

-Mission-

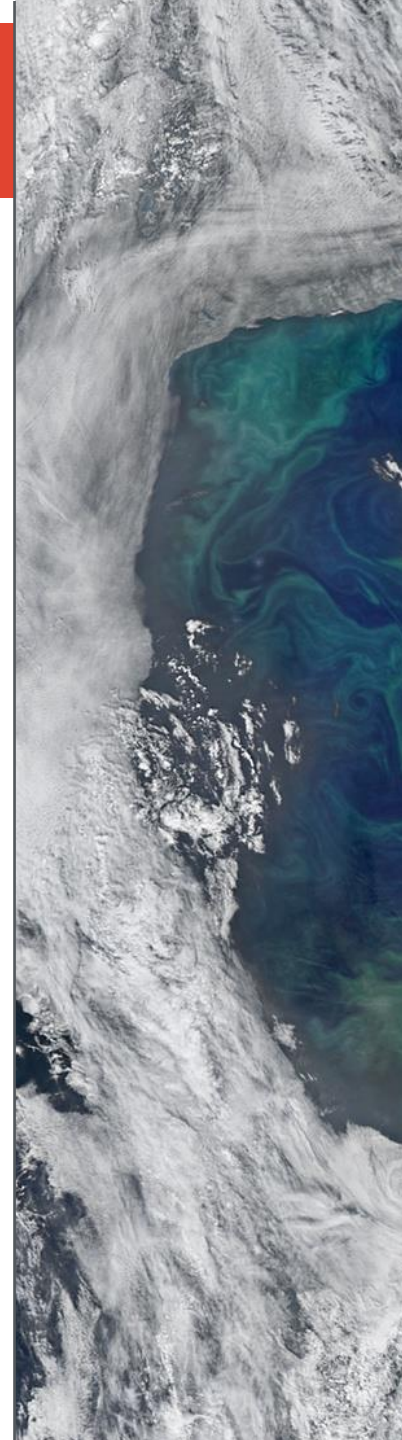
To enable scalable application of Earth Science insights by the private sector through trusted and intentional relationships.

-Purpose-

To build a larger end user community, reach new audiences, and leverage resources. Private Sector Engagement will increase the use of NASA Earth Science Information for decision making processes by better understanding and addressing user needs and enabling scaling of applications and tools. The result will be:

- An increased demand for NASA ESD work,
- Benefit to society,
- Improved ability to address NASA's mission to enhance knowledge, education, innovation, economic vitality, and stewardship of Earth.

	Envisioned Success
Partnership Targeting	Develop an adaptive targeting strategy that identifies, prioritizes, selects, and evaluates private-sector engagement in a mutually beneficial way.
External Needs Assessment	Build an internal standard approach for all ASP members to conduct end-user needs assessment and market analysis that minimizes effort and maximizes the likelihood of success.
Engagement Mechanisms	Create an enabling environment to collaborate and promote mutual learning and developing innovative financial mechanisms to enable engagement for the benefit of all involved organizations.
Data Access and Support Tools	Enable private-sector entities to easily find, access, and utilize relevant data and tools and understand where to turn with questions on utilizing the information and products.

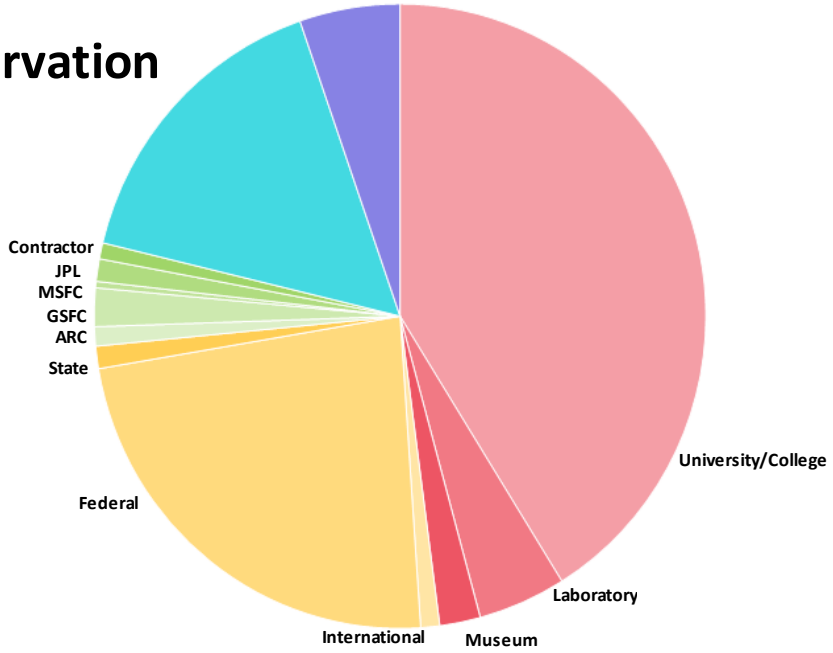


ESD Private Sector History

Ecological Conservation

Team Members

- Academia
- Government
- NASA
- Non-Profit
- Commercial



Biological Diversity

Team Members

- Academia
- Government
- NASA
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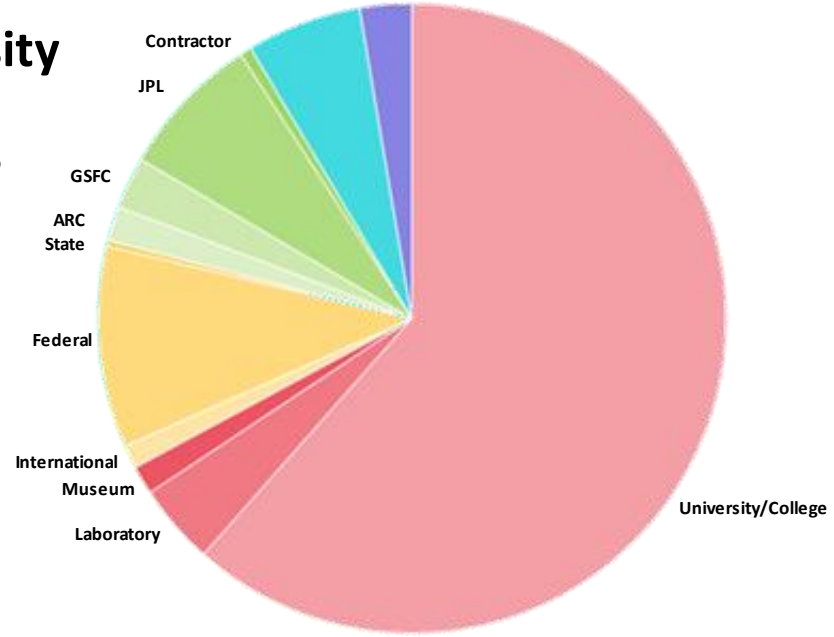
- Commercial



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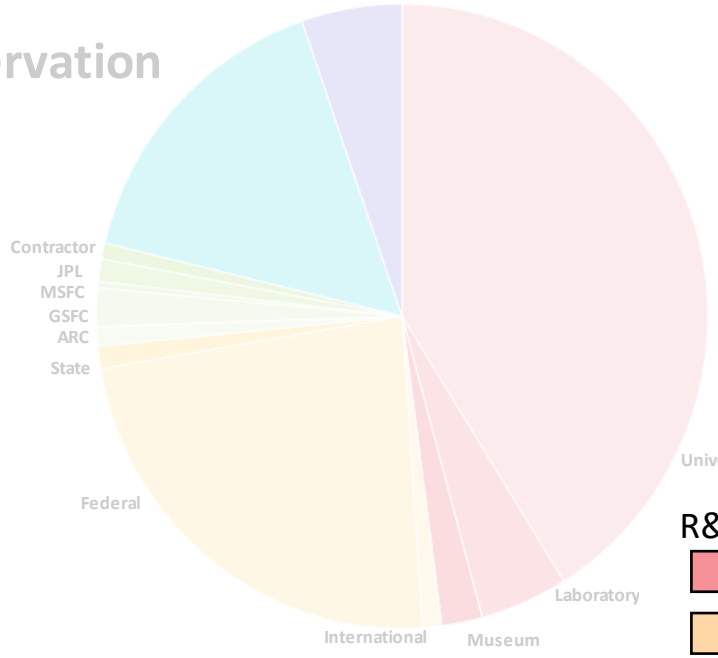

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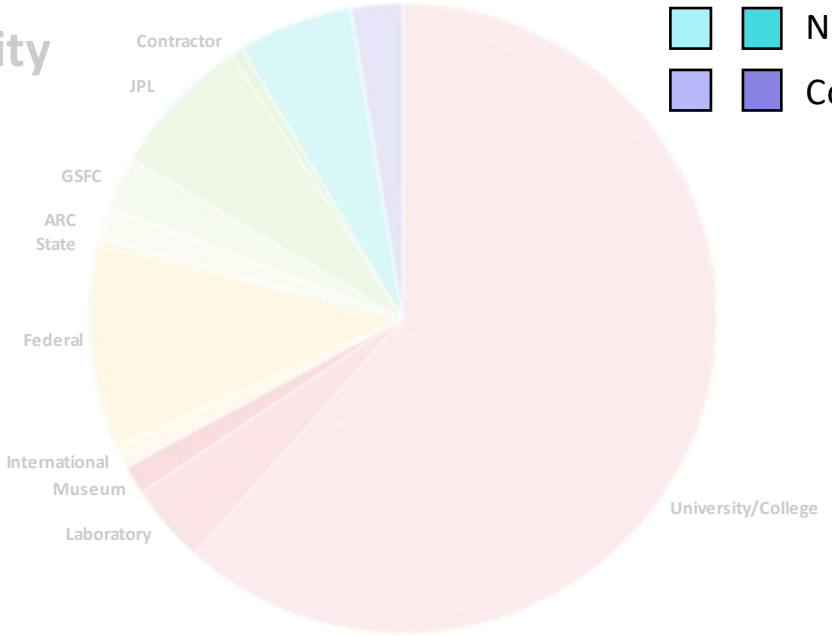
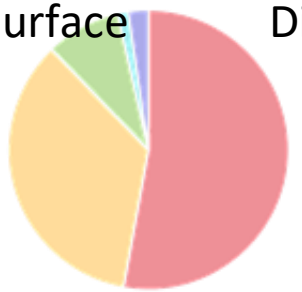


R&A ASP

- Academia
- NASA
- Government
- NGO/Non-Profit
- Commercial

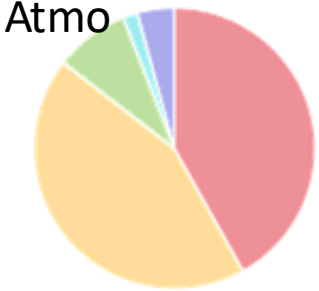
Team Members

Surface

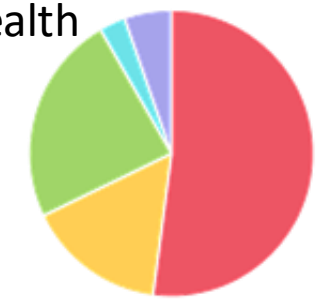


Disasters

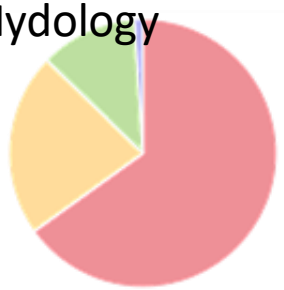
Atmo



Health

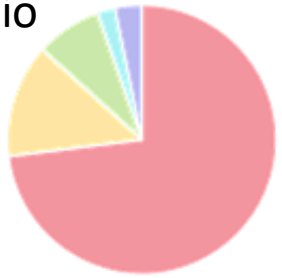


Hydology



Water

Bio

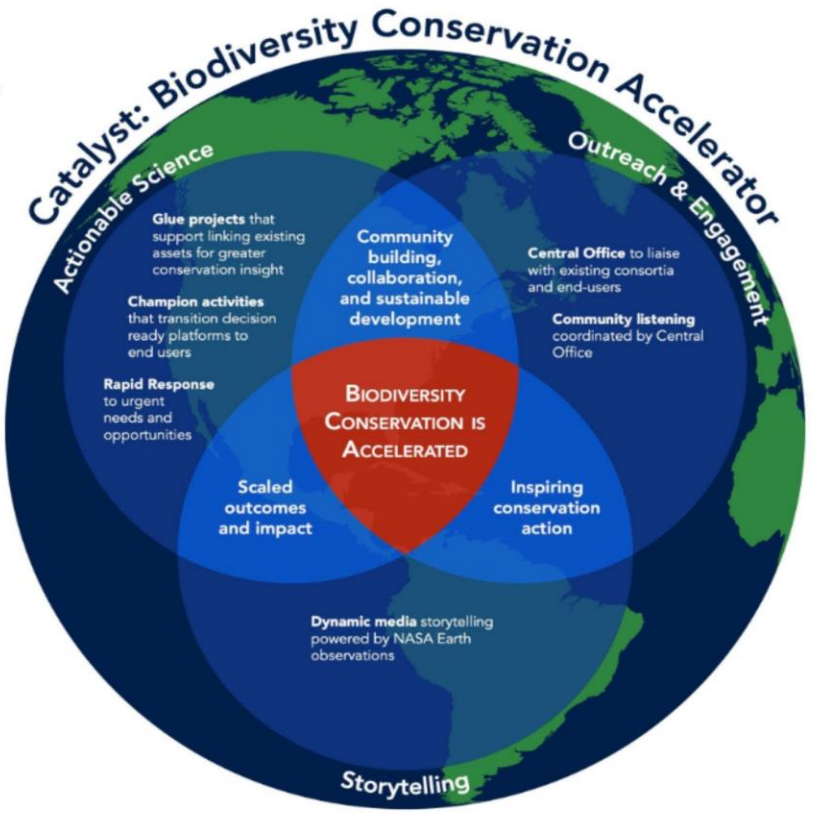


Eco


Coming Soon

Catalyst: The Biodiversity Accelerator

Catalyzing a true Earth System Observatory using conservation as a unifying theme.



California: The Starting Place

Scalability | *Exceptional Diversity* | *Unparalleled Capability* | *Unprecedented Need*

We can't do this alone.

keith.gaddis@nasa.gov